

**EPA Comments on  
Draft BART Assessments  
Milton R. Young Station  
and Leland Olds Station**

**Comment No.: 1**

**Commentor:** EPA (4)

**Affected Source:** General

**Comment Summary:** Suggest BART limit be written as % reduction and lb/10<sup>6</sup> Btu.

**Response:** The BART Guideline provides a choice. The Department's proposed limits are consistent with the BART Guideline. If the BART limit is only written as a lb/10<sup>6</sup> Btu limit, it will be higher than 0.15 lb/10<sup>6</sup> Btu.

**Comment No.: 2**

**Commentor:** EPA (5)

**Affected Source:** M.R. Young 2

**Comment Summary:** The 90% reduction requirement is not included in the Department's analysis.

**Response:** This is incorrect. There is a discussion of the 90% reduction requirement on p. 38.

**Comment No.: 3**

**Commentor:** EPA (10)

**Affected Source:** General

**Comment Summary:** EPA will be evaluating our response to Minnesota's "ask" memorandum.

**Response:** A response has been sent to Minnesota.

**Comment No.: 4**

**Commentor:** EPA (15)

**Affected Source:** General

**Comment Summary:**

(A) More information is needed to determine if K-Fuels is a viable option.

(B) EPA believes TurboSorp is technically feasible.

**Response:**

(A) K-Fuels has been under development for 20 years or more. The only commercial demonstration facility was near Gillette, Wyoming. According to Evergreen Energy's website the Wyoming plant has been idled in order to direct its capital and management resources to support a new design. At this time, we believe the K-Fuels process is not commercially available for North Dakota lignite.

(B) TurboSorp is a trademark for Babcock Power's circulating dry scrubber. The Minnkota, Basin Electric and GRE Stanton analyses all found circulating dry scrubbers to be technically feasible. The GRE Coal Creek analyses has been modified to address a circulating dry scrubber.

**Comment No.: 5**

**Commentor:** EPA (17), (18), (28)

**Affected Source:** General

**Comment Summary:** The citation of 40 CFR 60, Subpart Da in the proposed permit is problematic.

**Response:** The citation has been removed.

**Comment No.: 6**

**Commentor:** EPA (19), (29)

**Affected Source:** General

**Comment Summary:** The phrase “and the effective dates of the BART emission limits” should be removed.

**Response:** The phrase has been removed.

**Comment No.: 7**

**Commentor:** EPA (20)

**Affected Source:** Leland Olds Unit 1

**Comment Summary:** The emission factor of 35(s) is incorrect.

**Response:** The factor is not incorrect. Based on actual CEM data, a factor higher than AP-42 is warranted. In the Department’s periodic review of PSD SO<sub>2</sub> increment consumption an emission factor of 37.4(s) was justified. For the BART analysis, an emission factor of 35(s) was used to provide a conservative estimate of the uncontrolled emission rate.

**Comment No.: 8**

**Commentor:** EPA (21) FLMs

**Affected Source:** Leland Olds 2

**Comment Summary:** A 5 factor analysis is required even though the most efficient control technology is used.

**Response:** The BART Guideline Step 1, Paragraph 9, states “... if a source commits to a BART determination that consists of the most stringent controls available, then there is no need to complete the remaining analyses in this section.” Basin had proposed the highest available control efficiency and lowest possible emission rate. Therefore, the other steps of a BART analysis were not required. The Department has now determined that SCR w/reheat is technically feasible. A visibility analysis of SCR vs SNCR has been included.

**Comment No.: 9**

**Commentor:** EPA (22)

**Affected Source:** Leland Olds 1

**Comment Summary:** It is unclear how some of the 16 control options were eliminated.

**Response:** The explanation is found on p. 47-50 of the Basin Electric analysis.

**Comment No.: 10**

**Commentor:** EPA (23)

**Affected Source:** Leland Olds 2

**Comment Summary:** EPA believes SCR is technically feasible.

**Response:** The Department believes high dust SCR is not technically feasible due to catalyst poisoning by sodium and potassium. A detailed explanation of this issue is found in Appendix B.5. The Department now believes low dust and tail end SCR are technically feasible for North Dakota lignite-fired power plants.

**Comment No.:** 11

**Commentor:** EPA (24)

**Affected Source:** Leland Olds 2

**Comment Summary:** Typo on table heading on p. 39.

**Response:** Agreed - Correction made.

**Comment No.:** 12

**Commentor:** EPA (25)

**Affected Source:** Leland Olds

**Comment Summary:** PM limits listed on p. 44-25 are 0.05 lb/10<sup>6</sup> Btu.

**Response:** The table has been corrected to list the limit of 0.07 lb/10<sup>6</sup> Btu.

**Comment No.:** 13

**Commentor:** EPA (26)

**Affected Source:** Leland Olds

**Comment Summary:** Summary lists an NO<sub>x</sub> emission limit of 0.18 lb/10<sup>6</sup> Btu.

**Response:** The limit has been revised to 0.19 lb/10<sup>6</sup> Btu and the emission reduction calculated accordingly.

**Comment No.:** 14

**Commentor:** EPA (27)

**Affected Source:** Leland Olds

**Comment Summary:** Appreciate the 98<sup>th</sup> percentile results.

**Response:** No response necessary.

**Comment No.:** 15

**Commentor:** EPA (30)

**Affected Source:** Leland Olds

**Comment Summary:** Add "Average ER = average actual emission rate" to permit.

**Response:** Agreed

**Comment No.:** 16

**Commentor:** EPA (31)

**Affected Source:** Leland Olds

**Comment Summary:** The phrase "or portable analyzer" was deleted and should be included in the permit.

**Response:** Agreed

**Comment No.:** 17

**Commentor:** EPA (36)

**Affected Source:** M.R. Young

**Comment Summary:** The August 2007 analysis relies too heavily on the CD.

**Response:** Minnkota prepared a BART analysis dated October 2006 and supplemented it with additional information dated August 2007. The two documents combined address all 5 factors for the three pollutants evaluated.

**Comment No.:** 18

**Commentor:** EPA (37)

**Affected Source:** M.R. Young 1

**Comment Summary:** The presentation of the 98<sup>th</sup> percentile visibility results in Appendix A is not an acceptable presentation.

**Response:** M.R. Young is not subject to the BART Guidelines. If it were, an evaluation of visibility impacts is not required since Minnkota has agreed to install the most stringent technology with the lowest possible emission rate.

**Comment No.:** 19

**Commentor:** EPA (38), (40), (42)

**Affected Source:** M.R. Young

**Comment Summary:**

- A. Startup/shutdown exemption are not acceptable.
- B. No visibility analysis was provided.
- C. They believe the presumptive limits apply.
- D. The NO<sub>x</sub> BART analysis is deficient since the NO<sub>x</sub> BART analysis process has not been completed.

**Response:**

- A. Alternative limits for startup/shutdown is an accepted practice for BACT permits. EPA, in the Desert Rock PSD permit, included alternative NO<sub>x</sub> limits for startup/shutdown. Minnkota has justified the alternative limits for startup. The BART Guidelines do not preclude these alternative limits. Therefore, the Department will maintain the limits for startup.
- B. The visibility modeling results have been provided.
- C. The nameplate capacity of the station is 734 MWe. The URGE is based on the capability of the unit for four hours. It does not represent long-term capability. Other rules such as the Acid Rain Program uses the nameplate capacity which is a verifiable value. We believe the Regional Haze Program should use it also. We disagree that the facility is subject to the presumptive emission limits. The DOE lists the M.R. Young Station as having a net summer capacity of 705 MWe for 2006.
- D. An analysis of BART has been provided that is independent of the BACT assessment.

**Comment No.:** 20

**Commentor:** EPA (41)

**Affected Source:** M.R. Young

**Comment Summary:** PM limits are problematic.

**Response:** The PM limits will be listed separately in the Permit to Construct.

**Comment No.:** 21

**Commentor:** EPA (43)

**Affected Source:** M.R. Young

**Comment Summary:** The phrase "EPA approved" should be added back into the permit.

**Response:** Agreed

**Comment No.:** 24

**Commentor:** EPA (3)

**Affected Source:** MDU Heskett

**Comment Summary:**

- A. A one km grid size may inappropriately reduce predicted concentrations. MDU used the annual average background visibility conditions while the North Dakota protocol requires use of the 20% cleanest days background.
- B. MDU has volunteered SO<sub>2</sub> reductions at Heskett 2. How is this voluntary reduction formalized? Is NDDH taking credit for these reductions under reasonable progress and are the reductions included in the 99,000 tpy figure. How does NDDH intend to make the agreement federally enforceable?

**Response:**

- A. The North Dakota modeling protocol only indicates that the "preferred" grid cell size is 3 km. The protocol does not prohibit a source from using a smaller size grid cell. We have no evidence to suggest that the smaller grid cells provides inaccurate results. MDU has provided justification for the one kilometer spacing (see Appendix A.2).

The North Dakota protocol was developed when EPA was interpreting the BART Guideline to require the use of 20% cleanest days background. EPA subsequently changed its position and allowed the use of the annual average background. Since EPA changed its interpretation, the Department had to allow the use of the annual average background since the State cannot, by law, be more stringent than Federal requirements.

- B. The voluntary reductions were formalized by letter. The requirement for 70% reduction will be included in a Federally enforceable Permit to Construct.

The Department will take credit for the reduction under the reasonable progress goals and the reduction is included in our calculation of total SO<sub>2</sub> emissions reductions.

By issuing a Permit to Construct, which will be included in the regional haze SIP, the reductions will be made federally enforceable.